

Home Treatment for COVID-19

Homeopathy is an important modality for supporting the immune system with regards to COVID-19. For patients without a local homeopath, virtual consultations are available. Remedies which have been helpful for many patients during the pandemic include: Bryonia, Arsenicum album, Gelsemium and Camphor.

Patients can also support themselves with all the many healthy habits that support the immune system such as sunshine, fresh air, loving relationships, sleep, spirituality, and nutritious food.

Valuable supplements to support the immune system and reduce inflammation include: vitamins C, A, B, E and D; minerals such as zinc and selenium; anti-inflammatories such as N-acetyl cysteine (NAC); and herbs such as garlic, echinacea, andrographis, ginger, tulsi and thyme; honey is useful in treating cough.

See further details in the two articles below.

The following is adapted from an article by [Dr. Joseph Mercola](#) August 24, 2020

STORY AT-A-GLANCE

- Vitamin C and quercetin have synergistic effects that make them useful in the prevention and early at-home treatment of COVID-19. Both are part of the MATH+ protocol developed by the Front Line COVID-19 Critical Care Working Group (FLCCC)
- For COVID-19 prophylaxis, the FLCCC recommends vitamin C, quercetin, zinc, melatonin and vitamin D3
- The at-home treatment for mildly symptomatic patients is very similar to the prophylactic regimen, but adds several optional drugs, including aspirin, famotidine (an antacid) and ivermectin (a heartworm medication that has been shown to inhibit SARS-CoV-2 replication in vitro)
- The in-hospital MATH+ protocol calls includes thiamine (vitamin B1) and high-dose ascorbic acid (vitamin C). Optional additions include melatonin, zinc, vitamin D3, atorvastatin, famotidine and magnesium
- There are two distinct phases or stages of COVID-19 — the viral replication stage and the immune dysfunction stage, treat each stage appropriately. It is important to start appropriate treatment as early as possible

Quercetin was initially found to provide broad-spectrum protection against SARS coronavirus in the aftermath of the SARS epidemic that broke out across 26 countries in 2003.^{1,2,3} Now, some doctors are advocating its use against SARS-CoV-2, in combination with vitamin C, noting that the two have synergistic effects.

Incidentally, ascorbic acid (vitamin C) and the bioflavonoid quercetin (originally labeled vitamin P) were both discovered by the same scientist — Nobel prize winner Albert Szent-Györgyi.^{4,5} Quercetin's antiviral capacity has been attributed to five main mechanisms of action:

1. Inhibiting the virus' ability to infect cells by transporting zinc across cellular membranes
2. Inhibiting replication of already infected cells
3. Reducing infected cells' resistance to treatment with antiviral medication
4. Inhibiting platelet aggregation — and many COVID-19 patients suffer abnormal blood clotting
5. Promoting SIRT2, thereby inhibiting the NLRP3 inflammasome assembly involved with COVID-19 infection

Similarly, vitamin C at extremely high doses also acts as an antiviral drug, effectively inactivating viruses. During the 2003 SARS pandemic, a Finnish researcher called⁶ for an investigation into the use of vitamin C after research showed it not only protected broiler chicks against avian coronavirus, but also cut the duration and severity of common cold in humans and significantly lowered susceptibility to pneumonia.

The MATH+ Protocol

While high-dose vitamin C is new for COVID-19 treatment, it's been used as a treatment for sepsis since about 2017. The vitamin C-based [sepsis treatment](#) was developed by Dr. Paul Marik, a critical care doctor at Sentara Norfolk General Hospital in East Virginia, which has since adopted it as standard of care for sepsis.

Marik explains how the COVID-19 critical care protocol grew out of his sepsis treatment, as he and other doctors noticed there were many similarities between sepsis and severe COVID-19 infection, in particular the out-of-control inflammatory cascade.

To address the differences between the two conditions, a group of doctors, including Marik, founded the Front Line COVID-19 Critical Care Working Group⁷ (FLCCC), and began developing a modified protocol specifically for COVID-19. It includes high dose [ascorbic acid \(vitamin C\)](#), to control inflammation and prevent the development of leaky blood vessels in the lungs.

MATH+ Prophylactic and At-Home Treatment Protocol

The initial MATH+ protocol¹⁰ was released in April 2020. In early July and August, it was updated^{11,12} to include quercetin and a number of optional nutrients and drugs, not only for critical care but also for prophylaxis and mild disease being treated at home.

There is evidence that vitamin C and quercetin co-administration exerts a synergistic antiviral action due to overlapping antiviral and immunomodulatory properties and the capacity of ascorbate to recycle quercetin, increasing its efficacy.

For prophylaxis¹³

- Vitamin C — 500 mg
- Quercetin — 250 mg to 500 mg
- Zinc — 75-100 mg/day (acetate, gluconate or picolinate). Zinc lozenges are preferred. After one month, reduce the dose to 30 mg to 50 mg per day (Tralee notes not all people can tolerate this dose of zinc, for some people 7mg may be the maximum they can comfortably take).
- Melatonin — increase as tolerated to 2 mg at night
- Vitamin D3 — Tralee recommends at least 4,000 IUs per day if not getting adequate vitamin D from sunshine.

The at-home treatment for mildly symptomatic patients is very similar, but adds several optional drugs, including aspirin (ASA), famotidine (an antacid), ivermectin (a heartworm medication that has been shown to inhibit SARS-CoV-2 replication in vitro¹⁴). (For dosages, see the [Critical Care Management Protocol](#)¹⁵ summary, available on the Eastern Virginia Medical School's site.)

They also recommend monitoring your oxygen saturation with a pulse oximeter and consider hospital if you get below 94%. The medical evidence to support each drug and nutrient can be found under “Medical Evidence”¹⁶ on the FLCCC's website.

MATH+ Critical Care In-Hospital Protocol

In July, the in-hospital protocol was revised¹⁷ again to include thiamine and high-dose ascorbic acid (vitamin C). Also consider: melatonin, zinc, vitamin D3, atorvastatin, famotidine and magnesium

According to the FLCCC, “By initiating the protocol soon after a patient meets criteria for oxygen supplementation, the need for mechanical ventilators and ICU beds will decrease dramatically.” While heparin is part of the hospital protocol due to the clotting complications in the microvasculature of the lung, it is likely that **N-acetyl cysteine (NAC)** is a better choice as it is safer and likely as effective. NAC is anti-oxidant and mucolytic.

The Two Phases of Disease Require Different Treatments

This is a key point: There are two distinct phases or stages of COVID-19 — the viral replication stage and the immune dysfunction stage — and the treatment must be appropriate for the stage you’re in. Equally important is starting treatment as early as possible. The graphic below details the two stages of disease, and the FLCCC’s suggested treatment focus for each.

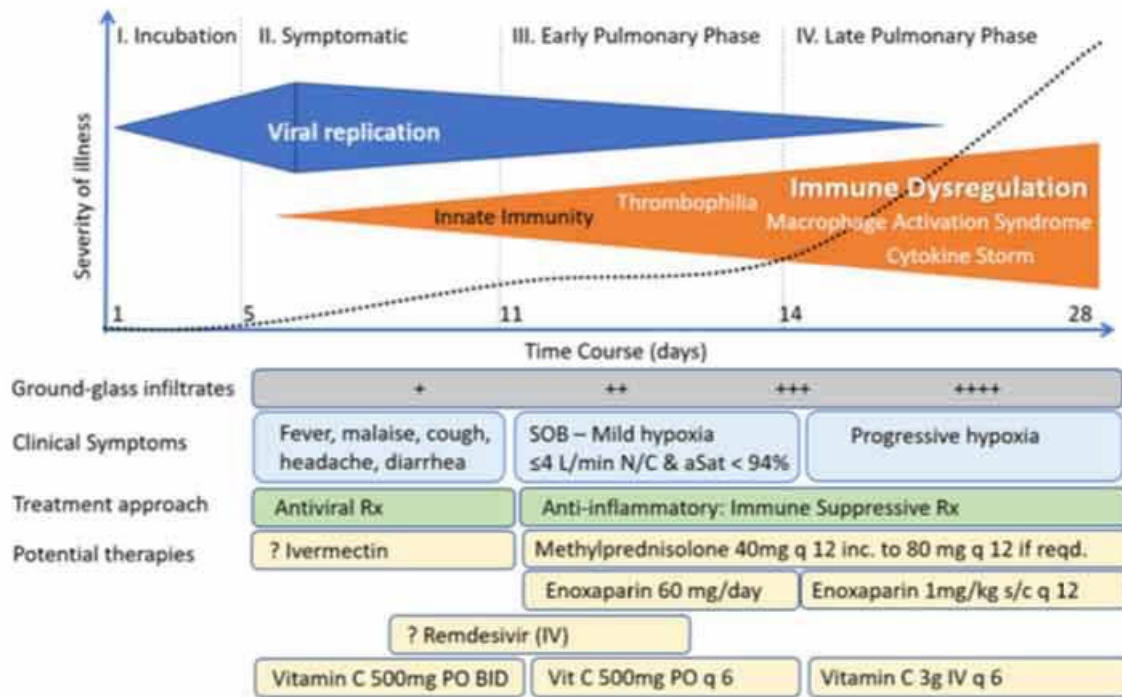
Peak viral replication takes place at the earliest signs of symptoms, which include cold/flu-like symptoms, loss of taste and smell, myalgia (muscle pain) and general malaise.

From the time of symptom onset to the time that immune dysregulation starts to set in (accompanied by worsening symptoms) is about five or six days. During this time, you need to actively treat, whether you’re at home (see the at-home treatment for symptomatic patients) or in the hospital.

The key remedies in this phase are antivirals (which is what vitamin C, quercetin and zinc are). If treating at home, ideally monitor your oxygen saturation with a pulse oximeter. If your oxygen drops to 94% or below when sitting or walking, consider going to the hospital.

If your immune system is unable to successfully combat the virus, then five to six days after first symptoms, early pulmonary dysfunction can set in. At this point, anti-inflammatories and immune suppressive therapeutics are important.

Figure 1. The course of COVID-19 and General Approach to treatment



THIS IS A STEROID RESPONSIVE DISEASE:

HOWEVER, TIMING IS CRITICAL

Viral Load Declines as Inflammation Rises

Another important concept explained by Marik is that the inflammatory response rises as the viral load decreases. They do not rise together.

“So, it’s really not the virus that is causing cytopathic effects,” he says. By the time you enter the pulmonary phase of the disease, your viral load has actually significantly decreased, but for some reason the inflammatory response then starts to run amok.

Your oxygen saturation is “the key indicator of pulmonary involvement,” Marik says. Once your oxygen saturation starts to decline, you are entering the early pulmonary phase where inflammation is rapidly increasing.

This is why it’s so helpful to measure your oxygen saturation. If your oxygen is dropping it may be time to go to the hospital. Again, early treatment is important. Hopefully, your doctor will be willing to implement the MATH+ protocol.²⁴

Vitamin C and Quercetin Work Synergistically

June 19, 2020, Marik published the paper,²⁵ “Quercetin and Vitamin C: An Experimental, Synergistic Therapy for the Prevention and Treatment of SARS-CoV-2 Related Disease (COVID-19)” in the journal *Frontiers in Immunology*, which notes:

“Ascorbic acid is a crucial vitamin necessary for the correct functioning of the immune system. It plays a role in stress response and has shown promising results when administered to the critically ill. Quercetin is a well-known flavonoid whose antiviral properties have been investigated in numerous studies.

There is evidence that vitamin C and quercetin co-administration exerts a synergistic antiviral action due to overlapping antiviral and immunomodulatory properties and the capacity of ascorbate to recycle quercetin, increasing its efficacy.

Safe, cheap interventions which have a sound biological rationale should be prioritized for experimental use in the current context of a global health pandemic.”

The paper presents evidence for the use of [vitamin C](#) and [quercetin](#) — based on their biological actions and pharmacokinetics profiles — both as prophylaxis in high-risk populations, and as an adjunct to drugs such as Remdesivir or convalescent plasma in the treatment of hospitalized COVID-19 patients.

Post-COVID Syndrome

Marik also addresses the issue of “post-COVID syndrome,” which he says is very similar to that of post-sepsis syndrome. In some cases, COVID-19 patients have recovered from the infection, only to die due to pulmonary embolism (blood clots in the lungs) or other organ dysfunction.

Marik suspects this is because the inflammatory response is still overactive. Many sepsis patients will have very high cytokine levels even a year after their recovery.

A good way to screen for this, Marik says, is to measure CRP in the blood, which appears to be a good marker for ongoing inflammation. If CRP is high after recovering from COVID-19, use anti-inflammatory approaches to downregulate the inflammatory response. Aspirin may also be helpful if the D-dimer blood test is high. This should be used under medical supervision.

I believe this information needs to be shared far and wide, if we are to prevent more people from dying unnecessarily. More and more, as doctors are starting to speak openly about their clinical findings, we see there are quite a few different ways to tackle this illness, using older, inexpensive and readily available medications and nutrients that are already known to be safe.

Take Your Vitamin D With Magnesium and K2

As detailed in “[Magnesium and K2 Optimize Your Vitamin D Supplementation](#),” it’s strongly recommended to take magnesium and K2 concomitant with oral vitamin D. Data from nearly 3,000 individuals reveal you need 244% more oral vitamin D if you’re not also taking magnesium and vitamin K2.

What this means in practical terms is that if you take all three supplements in combination, you need far less oral vitamin D in order to achieve a healthy vitamin D level.

When available, sunshine is a great source of vitamin D.

- Sources and References

- ¹ [Journal of Virology Sep 2004, 78 \(20\) 11334-11339, Antiviral activity of an analog of luteolin](#)
- ² [Bioorg Med Chem. 2006 Dec 15;14\(24\):8295-306](#)
- ³ [Maclean's February 24, 2020](#)
- ⁴ [ACS.org Albert Szent-Gyorgyi's discovery of vitamin C](#)
- ^{5, 25} [Frontiers in Immunology June 19, 2020 DOI: 10.3389/fimmu.2020.01451](#)
- ⁶ [Journal of Antimicrobial Chemotherapy December 2003; 52\(6\): 1049-1050](#)
- ⁷ [covid19criticalcare.com](#)
- ^{8, 10} [MATH+ Protocol \(PDF\)](#)
- ⁹ [COVID-19 Management Protocol \(MATH+\) \(PDF\)](#)
- ¹¹ [COVID-19 Management Protocol \(MATH+\) Updated July 9, 2020 \(PDF\)](#)
- ^{12, 13} [EVMS Critical Care COVID-19 Management Protocol August 1, 2020](#)
- ¹⁴ [Antiviral Research June 2020; 178: 104787](#)
- ¹⁵ [EVMS Critical Care COVID-19 Management Protocol June 17, 2020](#)
- ¹⁶ [FLCCC.net Medical Evidence](#)
- ^{17, 18} [MATH+ Hospital Treatment Protocol for COVID-19 July 14, 2020 \(PDF\)](#)
- ^{19, 20, 24} [Medium June 16, 2020](#)
- ²¹ [Recovery Trial](#)
- ²² [BMJ 2020;369:m1626](#)
- ²³ [Science Translational Medicine June 5, 2020](#)

These Herbs Might Help You Fight Respiratory Viruses

Analysis by [Dr. Joseph Mercola](#)



STORY AT-A-GLANCE

- Researchers from the Chinese Academy of Agricultural Sciences and China's Hebei Agricultural University compiled some of the most useful herbs for the prevention and treatment of cold and flu, and potentially COVID-19
- Tulsi, snake root, licorice root and clove are examples of herbs with expectorant properties that can soothe coughs and colds
- Thyme, honeysuckle, andrographis and yarrow are antiviral herbs useful for warding off viral infections
- Echinacea, garlic, ginseng and isatis boost your immune system to fight off infectious diseases
- Because working with herbs can be complex, for best results consult with a knowledgeable natural health care practitioner who can guide you on the appropriate herbal solutions for your circumstances

Over thousands of years, indigenous cultures have used traditional herbal medicine to prevent and treat diseases, including respiratory ailments like colds and influenza. In the modern day, the bioactive compounds of medicinal plants have become primary points of research for drug therapies, but the plant remedies still hold promise when used as nature intended.

“While the plant kingdom continues to serve as an important source for chemical entities supporting drug discovery, the rich traditions of herbal medicine developed by trial and error on human subjects over thousands of years contain invaluable biomedical information just waiting to be uncovered using modern scientific approaches,” researchers wrote in *Nature Plants* in 2017.¹

Now, with the COVID-19 pandemic, the use of traditional herbal medicine for the treatment of respiratory ailments has taken on renewed interest, and researchers from the Chinese Academy of Agricultural Sciences and China's Hebei Agricultural University compiled some of the most useful herbs for the prevention and treatment of cold and flu, and potentially COVID-19, too.²

Top Expectorant Herbs for Cold and Flu

Expectorant herbs are useful for thinning and loosening mucus, helping to clear congestion. They're often used for coughs and colds, as they may make breathing easier.

After conducting a literature survey on natural herbal medicines, particularly those from traditional Chinese and Persian medicine, the researchers suggested the following herbs had significant potential as expectorants for cold and flu:³

Tulsi — Tulsi, also known as [holy basil](#), is an Ayurvedic herb with antibacterial, antiviral, antifungal, anti-inflammatory, analgesic, antioxidant and adaptogenic properties.⁴ A review in the *Journal of Ayurveda and Integrative Medicine* even called tulsi an “herb for all reasons,” noting that it’s effective against “a range of human and animal pathogens” with broad-spectrum antimicrobial activity. They even suggested it could be used as a hand sanitizer.⁵

Tulsi is also one of the herbs in Ayush Kwath, an Ayurvedic herbal formula recommended by the government of India to boost immunity and combat COVID-19.

“Ayush Kwath due to its immune-modulatory, antiviral, antioxidant, anti-inflammatory, anti-platelet, anti-atherosclerotic, hepato-protective, reno-protective properties; seems to be effective in immuno-regulation for controlling viral infections like COVID-19,” a team of researchers wrote in the *Journal of Ayurveda and Integrative Medicine*.⁶

Snake root — Used by North American Indians to treat snake bites, snake root, or *Polygala senega*, is also valued for its stimulant, expectorant properties and has traditionally been used to treat respiratory ailments.⁷

Licorice root — [Licorice root](#) contains liquiritin, a compound that helps prevent the rapid reproduction of SARS-CoV-2, the virus that causes COVID-19, as demonstrated in the lab.⁸ The compounds in licorice root have demonstrated antiviral and anti-inflammatory effects in the body and the ability to modulate the immune system.

A second compound in licorice root that has demonstrated an effect against SARS-CoV-1 is [glycyrrhizin](#).⁹

Glycyrrhizin has traditionally been used in the treatment of coughs and viral respiratory tract infections in China, India and Greece, and animal studies suggest it reduces mortality from herpes encephalitis and influenza A pneumonia, while in vitro studies show it has “antiviral activity against HIV-1, SARS-related coronavirus, respiratory syncytial virus, arboviruses, vaccinia virus and vesicular stomatitis virus.”¹⁰

Clove — Cloves (*Syzygium aromaticum* or *Eugenia caryophyllata*) are the aromatic flower buds collected from evergreen trees of the same name. Eugenol, a major volatile constituent of clove essential oil, has a range of pharmacological activities including antimicrobial, anti-inflammatory, analgesic, antioxidant and anticancer properties.¹¹

One way to use clove as a respiratory aid is to make clove tea, which you can either drink or use as a steam inhalation. For a cold, you can add a couple of drops of clove essential oil to a mug of hot water, sweetened with [raw honey](#) or stevia if desired. Drink two to three glasses a day until your condition improves. You can also use clove oil for aromatherapy by diffusing it into the air.

Slippery elm root — The inner bark of the slippery elm tree is a slimy substance that, when mixed with water, creates mucilage, a sticky substance traditionally used for soothing a variety of ailments. In addition to being used for gastrointestinal problems like irritable bowel syndrome,¹² slippery elm is beneficial for the throat and coughs, and has soothing effects on the tissue of the upper airway.¹³

Marshmallow root — This perennial herb has been valued for treating respiratory ailments since ancient times, and research suggests that, when added to an herbal cough syrup, it's useful for alleviating cough associated with colds, bronchitis and respiratory tract diseases that involve the formation of mucus.¹⁴

Sage — Sage, in addition to having antimicrobial and anti-inflammatory properties, is a natural expectorant and useful to clear mucus and reduce coughs, and even calm a sore throat.¹⁵ Consider adding a drop of sage essential oil to a cup of tea or hot water the next time you have a cold.

Top Antiviral and Immunostimulant Herbs

In their review of the best herbal medicines for cold and flu, in addition to COVID-19, the researchers of the featured study also highlighted antiviral herbs and those that stimulate the immune system. While most medicinal plants have a variety of benefits with overlapping therapeutic properties, the following stood out in these categories. Important antiviral herbs included:

Thyme — Thyme (*Thymus vulgaris*), contains potent compounds like thymol, camphene, linalool, and carvacrol and has been used traditionally for respiratory issues. Modern research shows vaporized essential oils from thyme, among others, may “potentially useful in influenza therapy.”¹⁶

Venezuelan officials also announced they have had encouraging results treating COVID-19 patients with Carvativir, an oral solution made from [extracts of thyme](#) and oregano.¹⁷

Honeysuckle flowers — [Honeysuckle](#) (*Lonicera japonica*) is another plant with a long history of use for respiratory ailments.¹⁸ It contains chlorogenic acid, which one study found "inhibited influenza virus during the late stage of infectious cycle" and also effectively reduced inflammation in the lungs and reduced viral titers during the study.¹⁹

[Andrographis](#) — This adaptogenic and antiviral herb has been used in Traditional Chinese Medicine and Ayurveda to treat the common cold.²⁰ In a systematic review of 33 randomized controlled trials with 7,175 patients, andrographis helped relieve the symptoms of acute upper respiratory tract infection and shortened the time for [cough](#) and sore throat as well.²¹

In another review of the literature, scholars found "strong evidence" that Andrographis was superior to a placebo in reducing the frequency and severity of coughs.²² A formulation known as Kan Jang that combines andrographis and Siberian ginseng has also been studied, with positive results, in the treatment of colds,²³ upper respiratory tract infections,²⁴ sinusitis²⁵ and flu.²⁶

Yarrow — This perennial herb contains many constituents with pharmacological activity. It's traditionally been used for respiratory infections, colds and flu,²⁷ and is sometimes combined with [elder flower](#) for this purpose.

Peppermint — [Peppermint oil](#) acts as an expectorant and decongestant, and may help clear your respiratory tract. Use peppermint essential oil as a cold rub on your chest or inhale it through a vaporizer to help clear nasal congestion and relieve cough and cold symptoms.

For even more therapeutic punch, try a tea made from a combination of elderflower, [yarrow](#), boneset, [linden](#), peppermint and ginger.

Calendula — Also known as [marigolds](#), calendula has anti-inflammatory, antiviral and regenerative properties that are also stimulating for the immune system.²⁸

The following herbs, in addition to marshmallow root and slippery elm, were also highlighted for their immunostimulant properties particularly for cold and flu:

Echinacea — In a study published in Integrative Cancer Therapies, [echinacea](#) was found to reduce the severity and duration of colds if it is administered right away once symptoms appear.²⁹

Garlic — With both immune-boosting and antiviral effects, those who consumed garlic daily for three months had fewer colds than those who took a placebo.³⁰

Ginseng — Another adaptogenic herb, older adults who took an extract of American ginseng had a 48% reduction in relative risk, and a 55% reduction in duration, of respiratory illness.³¹ This herb was also found to be "a safe and effective treatment for reducing the absolute risk of recurrent colds and the mean number of colds per person."³²

Isatis root — Isatis is a flowering plant used in TCM and Ayurveda, often in combination with other herbs. Teas and mouthwashes containing isatis, honeysuckle, mint and licorice root have also been successful at treating respiratory problems, including influenza.³³

Usnea lichen — Usnea is a type of lichen that grows on trees and rocks around the world. It contains polysaccharides that may boost immune system activity, making it useful for colds and flu.³⁴

Myrrh — Myrrh is a thorny tree or shrub that releases a resin from cracks in the bark. This resin has traditionally been used to treat colds and cough,³⁵ and with known antiviral and immunomodulatory properties, researchers suggested myrrh mouthwash could be effective in combating COVID-19.³⁶

Ginger — Ginger root has been used as a tonic to treat common ailments for centuries, and a number of studies have documented the antioxidant and immunomodulatory effects of this herbaceous perennial plant.³⁷

Nature Is Full of Powerful Healers

Herbal medicine is a powerful arsenal in the prevention and treatment of respiratory ailments like colds, flu and COVID-19. In China, herbal treatment is recommended for children and adults with COVID-19,³⁸ and interest in traditional remedies is growing in the U.S. as well.

Herbs are unique in that they contain multiple beneficial components that work synergistically to promote wellness. As noted in the featured study:³⁹

“Some important chemical constituents of traditional herbs, which can be considered in the fight against COVID-19, are betulinic acid, coumaroyltyramine, cryptotanshinone, desmethoxyreserpine, dihomog-g-linolenic acid, dihydrotanshinone I, kaempferol, lignan, moupinamide, N-cis-feruloyltyramine, quercetin, sugiol, and tanshinonella.”

Because working with herbs can be complex, for best results consult with a knowledgeable natural health care practitioner who can guide you on the appropriate herbal solutions for your circumstances.

Sources and References

- ¹ [Nature Plants July 31, 2017](#)
- ^{2, 3, 39} [Natural Product Communications August 24, 2020](#)
- ^{4, 5} [J Ayurveda Integr Med. 2014 Oct-Dec; 5\(4\): 251–259](#)
- ⁶ [J Ayurveda Integr Med. 2020 Aug 17. doi: 10.1016/j.jaim.2020.08.003](#)
- ⁷ [Natural Medicinal Herbs, Senega Snake Root](#)
- ⁸ [bioRxiv, 2020; doi.org/10.1101/2020.05.02.074021](#)
- ⁹ [The Lancet 2003;361:2045](#)
- ¹⁰ [Phytotherapy Research 2008; 22\(2\):141](#)
- ¹¹ [Molecules June 6, 2012; 17\(6\): 6953-6981 \[PDF\]](#)
- ¹² [J Altern Complement Med. 2010 Oct;16\(10\):1065-71. doi: 10.1089/acm.2009.0090](#)
- ¹³ [A J Physiol Biochem Pharmacol. 2012; 1\(1\): 17-23 doi: 10.5455/jib.20120417052415](#)
- ¹⁴ [Complementary Medicine Research December 2005](#)
- ¹⁵ [International Journal of Pharmaceutical Science Invention August 2016](#)
- ¹⁶ [American Journal of Essential Oils and Natural Products, 2014;2\(1\)](#)
- ¹⁷ [Reuters, January 26, 2021](#)
- ¹⁸ [Chemical and Pharmaceutical Bulletin, 2003;51\(3\):333](#)
- ¹⁹ [Scientific Reports, 2017;7\(45723\)](#)
- ²⁰ [Examine, Andrographis paniculata](#)
- ²¹ [PLoS One, 2017;12\(8\)](#)
- ²² [Forschende Komplementarmedizin, 2015;22\(6\)](#)
- ²³ [Phytotherapy Research, 2004;18\(1\)](#)
- ²⁴ [Phytomedicine, 2000;7\(5\)](#)
- ²⁵ [Phytomedicine, 2002;9\(7\)](#)
- ²⁶ [Journal of Herbal Pharmacotherapy, 2003;3\(1\)](#)
- ²⁷ [WMW 2007](#)
- ²⁸ [American Botanical Council, Calendula January 15, 2020](#)
- ²⁹ [Integrative Cancer Therapies September 1, 2003](#)
- ³⁰ [Cochrane Database of Systematic Reviews March 14, 2012](#)
- ³¹ [J Altern Complement Med. 2006 Mar;12\(2\):153-7](#)
- ³² [CMAJ. October 25, 2005;173\(9\):1043-1048](#)
- ³³ [Research Gate: Natural Product Communications - August 2020](#)
- ³⁴ [HerbalRemediesAdvice.org, Usnea](#)
- ³⁵ [Research Gate: December 12, 2020](#)
- ³⁶ [Iberoamerican Journal of Medicine May 15, 2020](#)
- ³⁷ [Nutrients, 2016;8\(8\) 495](#)
- ³⁸ [Complement Ther Clin Pract. 2020 May; 39: 101174](#)

Sources and References

- ¹ [Mercy Health](#)
- ² [Scholars Journal of Applied Medical Sciences, 2016;4\(6C\):2023](#)
- ³ [Centers for Disease Control and Prevention](#)
- ⁴ [The Lancet, 2020;8\(4\)](#)
- ⁵ [Tropical Medicine and International Health, 2015;20\(12\)](#)
- ⁶ [Family Allergy and Asthma](#)
- ⁷ [Centers for Disease Control and Prevention, Adult Treatment Recommendations](#)
- ⁸ [Annals of Internal Medicine, 2016; doi.org/10.7326/M15-1840](#)
- ⁹ [Mayo Clinic News Network, December 7, 2016](#)
- ¹⁰ [Science Daily, January 23, 2008](#)
- ¹¹ [BMJ Evidence-Based Medicine, 2020; doi: 10.1136/bmjebm-2020-111336](#)
- ¹² [Allergologia et Immunopathologia, 2015;43\(5\)](#)
- ¹³ [JAMA Pediatrics, 2007;161\(12\)](#)
- ¹⁴ [The Journal of Alternative and Complementary Medicine, 2010; 16\(7\)](#)
- ^{15, 18} [Canadian Family Physician, 2014;60\(12\)](#)
- ¹⁶ [Cochrane Database System Review, 2012;doi:10.1002/14651858.CD001831.pub4](#)
- ¹⁷ [International Journal of Advanced Research, 2015;3\(6\)](#)
- ¹⁹ [NHS](#)
- ²⁰ [BMC Pediatrics, 2015;15\(176\)](#)
- ²¹ [Journal of International Medical Research, 2018;46\(4\)](#)
- ²² [Antimicrobial Agents and Chemotherapy, 2015;59\(7\)](#)
- ²³ [Centers for Disease Control and Prevention, Biggest Threats and Data](#)
- ²⁴ [Infection Control and Hospital Epidemiology, January 2019;40\(1\):112](#)
- ²⁵ [Asian Pacific Journal of Tropical Medicine, 2010;3\(12\):961](#)
- ²⁶ [European Journal of Clinical Microbiology & Infectious Diseases, 2011;30:251](#)
- ²⁷ [African Health Sciences, 2007;7\(3\)](#)
- ²⁸ [Asheville Bee Charmer](#)
- ²⁹ [How to Cure, March 2, 2020](#)

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